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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,579	07/29/2003	Mark C. Carroll	22129-00007-US1	4098

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EXAMINER

MORILLO, JANEL COMBS

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/628,579

Applicant(s)

CARROLL ET AL.

Examiner

Janelle Combs-Morillo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4,5,7,9,10,16,22,24,25,38,39,42 and 43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4,5,7,9,10,16,22,24,25,38,39,42 and 43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 18, 2006 has been entered.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 4, 7, 10, 38, 39, 43 are rejected under 35 U.S.C. 102(a) as being anticipated by “Effects of minor Cu additions on a Zn-modified Al-5083 alloy” (hereinafter Carroll).

Carroll teaches a modified 5083 alloy with: 0.58% Zn, 0.073% Cu (see Table 1 p 426), wherein said alloy is subject to a sensitization treatment at 165°C (p 426 top of page), thereby obtaining the quaternary  $\tau$ -phase (p 427), substantially as presently claimed.

Concerning claim 39, which mention various properties related to said  $\tau$ -phase or the sensitization treatment, because the temperature mentioned by Carroll falls within the presently claimed temperature range, then substantially the same effects, such as simulation of actual conditions of use, is held to be inherently present. Because Carroll teaches an identical alloy

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processed substantially as presently claimed, then substantially the same properties, such as mass loss or elongation, are expected to be inherently present.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4, 5, 7, 9, 10, 16, 22, 24, 25, 38, 39, 42, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haszler (US 6,342,113).

Haszler teaches Al-Mg alloy comprising (in wt%): 5-6% Mg, 0.6-1.2% Mn, 0.4-1.5% Zn, 0.05-0.25% Zr, max. 0.3% Cr, max. 0.4% Cu, max. 0.4% Ag (column 2 lines 64-66, column 3 lines 1-9), which overlaps or touches the boundary of the presently claimed alloying ranges of Mn, Zn, Zr, Cr, Cu, Ag and is a close approximation of the presently claimed range of Mg (AA registered alloy 5083 contains 4.0-4.9% Mg).

A prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Because Haszler teaches alloying ranges that overlap, or are a close approximation of the presently claimed alloying ranges, it is held that Haszler has created a prima facie case of obviousness of the presently claimed invention.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the

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range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Concerning claims 4, 7, 28, 42, 43, which mention a tau phase or a sensitization treatment (and/or properties related to said phase or treatment), Haszler mentions said Al-Mg alloy is exposed to temperature of 100°C (ex. 3 of Haszler, see esp. column 10 lines 47-50), which simulates the actual service temperature, which falls within the presently claimed heat treatment temperature. Additionally, Haszler teaches heat treating at a minimum temperature of 200°C, which touches the boundary of the presently claimed heat treatment maximum.

The examiner asserts that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). Therefore, if the prior art teaches a substantially identical chemical structure, the properties applicant discloses and/or claims (tau phase, mass loss, elongation) are expected to be present. See MPEP 2112.01.

Concerning claims 16, 22, 24, 25, Haszler teaches said alloy is particularly suitable for large welded structures such as storage containers, vessels for marine and land transportation, tanks, etc. (column 1 lines 13-17).

6. Claims 5, 9, 16, 22, 24, 25, 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Effects of minor Cu additions on a Zn-modified Al-5083 alloy” (hereinafter Carroll) in view of Haszler.

Concerning claims 16, 22, 24, 25, Carroll does not mention said alloy is in the form of a marine product, etc. However, Haszler teaches substantially similar 5xxx series aluminum alloys

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are particularly suitable for large welded structures such as storage containers, vessels for marine and land transportation, tanks, etc. due to their excellent weldability and corrosion resistance (column 1 lines 13-17, column 2 lines 55-57). It would have been obvious to one of ordinary skill in the art to form the 5xxx series alloy taught by Carroll into a large welded structure, such as a marine vehicle, because Haszler teaches substantially similar 5xxx series aluminum alloys are particularly suitable for large welded structures such as storage containers, vessels for marine and land transportation, tanks, etc. due to their excellent weldability and corrosion resistance (column 1 lines 13-17, column 2 lines 55-57).

Concerning claims 5 and 9, which mention Ag is added to said Al-Mg alloy, Haszler teaches that 0.05-0.4% Ag may be added to improve stress corrosion resistance (column 4 lines 56-58). It would have been obvious to one of ordinary skill in the art to add 0.05-0.4% Ag, as taught by Haszler, to the 5xxx series aluminum alloy taught by Carroll because Haszler teaches that 0.05-0.4% Ag may be added to improve stress corrosion resistance (column 4 lines 56-58).

***Response to Amendment***

7. In the response filed on April 18, 2006, applicant amended claims 4, 5, 7, 9, 10, and added new claims 42 and 43. The examiner agrees that no new matter has been added.

8. The examiner agrees that the 102 rejections in view of Haszler have been overcome. However, the instant amended claims remain rejected under 103 in view of Haszler, as stated above.

9. The examiner maintains that the declaration under 37 CFR 1.132 filed 8/01/2005 is insufficient to overcome the rejection of claims 4, 5, 7, 9, 10, 16, 22, 24, 25, 38, 39, 42, and 43 based upon "Effects of minor Cu additions on a Zn-modified Al-5083 alloy" as set forth in the

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last Office action because: though applicant has established that P.I. Gouma did not contribute the conception of the presently pending claims, it is not clear that the additional inventors Buchheit and Morere (who are not part of the inventorship of the reference publication) did not contribute to the instant claimed invention (thereby clearly establishing the publication is applicant's own work). Applicant's disclosure of his or her own work within the year before the application filing date cannot be used against him or her under 35 U.S.C. 102(a), (*In re Katz*, 687 F.2d 450, 215 USPQ 14 (CCPA 1982)). See MPEP 2132.01.

10. Applicant's argument that the present invention is allowable over the prior art of record because the ranges taught by Haszler no longer overlap the presently claimed alloying range of Mg has not been found persuasive. As stated above, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Because Haszler teaches alloying ranges that overlap, or are a close approximation of the presently claimed alloying ranges, it is held that Haszler has created a prima facie case of obviousness of the presently claimed invention.

11. Applicant's argument that the present invention is allowable over the prior art of record because the quaternary Tau phase is not expected to form for Haszler, has not been found persuasive because Applicant has not clearly shown an unobvious difference between the instant invention and the prior art's *substantially similar Al-Mg-Mn-Cu-Zn alloy product*. More particularly, once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the examiner presents evidence or reasoning tending to show inherency,

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the burden shifts to the applicant to show an unobvious difference. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same...[footnote omitted]." The burden of proof is similar to that required with respect to product-by-process claims. In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980) (quoting In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)), see MPEP 2112. In re Schreiber, 128 F.3d 1473, 1478, 44 USPQ2d 1429, 1432 (Fed.Cir.1997).

12. Applicant's argument that the present invention is allowable over the prior art of record because Haszler teaches away from the instantly claimed invention has not been found clearly persuasive. The description of Ex. 3 of Haszler mentions the precipitation of anodic intermetallics on the grain boundaries (col. 10 lines 41-43), as well as continuous boundary network of anodic intermetallics for increased exposure time (col. 10 lines 45-46) for AA5083. The example of Haszler D1 does not form continuous grain boundary precipitates (col. 10 lines 55-56), but rather forms anodic intermetallics within the grains even after prolonged exposure (col. 10 lines 47-50). It is unclear that because Haszler teaches against *continuous* grain boundary precipitation that Haszler teaches against a quaternary Al-Mg-Zn-Cu phase formed at grain boundaries after a heat treatment at 80-200°C.

13. Applicant's argument that the present invention is allowable over the prior art of record because the prior art does not teach improved resistance to SCC has not been found persuasive. Applicant has not clearly shown specific unexpected results with respect to the prior art of record



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or criticality of the instant claimed range (wherein said results must be fully commensurate in scope with the instantly claimed ranges, etc. see MPEP 716.02 d).

***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCM  
July 10, 2006

  
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